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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,622	10/25/2001	John F. O'Connor JR.	3135.22	2227

7590 11/19/2002

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EXAMINER
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DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/057,622

Applicant(s)

O'CONNOR, JOHN F.

Examiner

Tho v Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

**DETAILED ACTION**

***Specification***

The abstract of the disclosure is objected to because it appears to be a typographical error of "blades blades" in the abstract. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "and the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 2 recites the limitation "the radial dimension W" and "the overall radius R" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the radial dimension W" and "the overall radius R" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the radial dimension W" and "the overall radius R" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the impeller radial dimension", "the impeller overall radius R" in line 2. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budelman (US 6,244,331) in view of Nelson (US 4,021,696). Budelman discloses (figure 5a) a centrifugal impeller (522) for use in a heat sink (410) having a multiplicity of small upright spaced apart heat dissipation elements (414) in an array defining a multiplicity of small air flow passageways (536) there between with a cavity (418) located centrally there within; the impeller (522) is disposed adjacent to and about the array of the heat dissipating elements and to be driven by an electric motor (524) disposed in the central cavity; the impeller (522) being open radially inwardly for radial communication with the airflow passageways between the heat dissipating elements (414) and at least partially open radially outwardly for the discharge of spent cooling air; the impeller (522) also having a radially extending backplate (534) which is exposed upwardly and which defines an inlet opening for the axial downward flow (538) of cooling air; the impeller having blades (526) forming part of the impeller and serving to effect a right angle turn in air flow direction and to withdraw air radially outwardly from the passageways. Budelman does not disclose that the blades (526) are rearwardly curved air moving blades.

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Nelson teaches (figures 2a, 3a) about a centrifugal impeller (31) having a plurality of rearwardly curved air moving blades (46,47) forming part of the impellers to reduce noise generation of the impeller independently of the direction of fan rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Nelson's teaching in the Budelman's centrifugal fan to reduce noise generation of the impeller independently of the direction of fan rotation. Regarding claims 2-10, Nelson also discloses (figure 3a,3b) the impeller's geometrical relationships such as the impeller radio dimension to the impeller overall radius, the number of blades, the inlet angle of blades and the outlet angle of blades. Nelson does not disclose any optimum range of claimed invention. It would have been obvious to one having ordinary skill in the art at the time the invention was made to obtain the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muszynski (US 5,814,908) discloses a blower wheel with axial inlet for ventilation.

Schwarz et al. (US 6,139,273) discloses a radial flow fan that has a plurality of peripheral blades disposed on a ring plate.

Nishikawa et al. (US 4,362,468) discloses a single curvature fan wheel of a diagonal flow fan.

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Zong Tang Lee (GB 2,342,123) discloses a fan that has rearwardly curved air moving blades.

Asbjornson et al. (US 4,808,068) discloses a blower unloading device that has rearwardly curved air moving blades.

Iyer et al. (US 5,707,209) discloses a centrifugal ventilation fan that has an inlet ring having an opening there through and a plurality of generally flat blades.

Botros (US 6,092,988) discloses a centrifugal blower that has a plurality of blades with inlet and outlet angles shown.

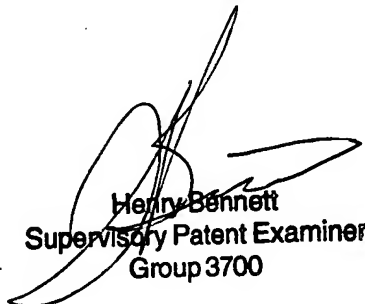
Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

Tho Duong

November 15, 2002



Henry Bennett  
Supervisory Patent Examiner  
Group 3700